

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS
DIVISION OF AGRICULTURAL ENGINEERING

S. H. McCrory, Chief

MONTHLY NEWS LETTER

WASHINGTON, D. C., FEBRUARY 20, 1929.

.....
:
:
: IT IS DESIRED TO SUBMIT TO THE BUREAU OF :
: STANDARDS FOR TESTING ANY TIRE OR TUBE FURNISHED :
: ON GOVERNMENT CONTRACT, THE SERVICE OF WHICH HAS :
: PROVED UNSATISFACTORY DUE TO DEFECTS. WHERE SUCH :
: A CASE DEVELOPS, THE TIRE OR TUBE SHOULD BE SENT :
: TO THIS OFFICE WITH FULL INFORMATION. THE SENDER, :
: HOWEVER, MUST BE PREPARED TO STATE POSITIVELY THAT :
: THE FAILURE WAS DUE IN NO RESPECT TO IMPROPER USE. :
:
: - - - :
:
:
: BY ORDER OF THE CHIEF OF BUREAU, WINDOW :
: ENVELOPES WILL NO LONGER BE SUPPLIED FOR THE USE :
: OF THE FIELD FORCE. :
:
: - - - :
:
:
: IN PAYING FOR HIRE OF TEAM AND TEAMSTER, :
: THE TEAMSTER SHOULD BE CARRIED ON A PAY ROLL :
: (FORM 1013-D) AND THE TEAM ON A WHITE VOUCHER :
: (FORM 1034). IT IS NOT PERMISSIBLE TO CARRY BOTH :
: TEAM AND TEAMSTER TOGETHER, EITHER ON A PAY ROLL :
: OR ON A WHITE VOUCHER. :
:.....

It is desired to make the MONTHLY NEWS LETTER AS INTERESTING AND
HELPFUL TO THE PERSONNEL OF THE DIVISION AS POSSIBLE. TO DO THIS IT IS
ESSENTIAL TO HAVE THE COOPERATION OF THE FIELD MEN. WHENEVER A MATTER OF
INTEREST TO OTHER MEMBERS OF THE FORCE COMES UP IN THE COURSE OF YOUR WORK
YOU ARE URGED TO FORWARD A BRIEF WRITEUP REGARDING IT TO THE WASHINGTON
OFFICE OR THE BERKELEY OFFICE FOR INCLUSION IN THE NEWS LETTER. SUCH MATTER
SHOULD REACH WASHINGTON BEFORE THE 18TH OF THE MONTH IN ORDER TO BE INCLUDED
IN THAT MONTH'S ISSUE. WE WOULD BE GLAD TO HAVE SUGGESTIONS AS TO HOW THE
NEWS LETTER CAN BE MADE TO BETTER SERVE THE INTERESTS OF THE DIVISION.

MR. McCORRY'S TRIP TO THE SOUTHWEST, MENTIONED IN THE JANUARY NEWS LETTER, WAS COMPLETED WITH HIS RETURN TO WASHINGTON ON JANUARY 23. ON FEBRUARY 2, MR. McCORRY LEFT WASHINGTON FOR A TRIP IN THE COURSE OF WHICH HE ADDRESSED THE MEETING OF THE SOUTHERN AGRICULTURAL EXTENSION WORKERS AT HOUSTON, TEXAS; FEBRUARY 5-6. THE SUBJECT OF MR. McCORRY'S PAPER WAS "THE FUTURE OF AGRICULTURAL ENGINEERING EXTENSION." FROM HOUSTON MR. McCORRY PROCEEDED TO TEMPLE, TEXAS TO EXAMINE A FARM WHICH IS AMONG THOSE BEING CONSIDERED IN CONNECTION WITH STARTING A SECOND COMPREHENSIVE EROSION AND TERRACING PROJECT, SIMILAR TO THE ONE NOW IN PROGRESS NEAR GUTHRIE, OKLA. THE FINAL SELECTION OF THE SITE OF THIS SECOND PROJECT HAS NOT YET BEEN DECIDED UPON. EN ROUTE TO WASHINGTON MR. McCORRY STOPPED ONE DAY WITH MR. RAMSER ON THE GUTHRIE PROJECT, AND ONE DAY WITH B. S. CLAYTON AT STUTTGART, ARK., TO OBSERVE THE PROGRESS ON THE PROJECT DEALING WITH RICE IRRIGATION. MR. McCORRY RETURNED TO WASHINGTON FEBRUARY 13 AND LEFT AGAIN FEBRUARY 17 TO ATTEND A MEETING OF THE A.S.A.E. COUNCIL AT CHICAGO. D. L. YARNELL MET MR. McCORRY AT CHICAGO TO DISCUSS THE HYDRAULIC EXPERIMENTAL WORK IN PROGRESS AT IOWA CITY.

P. A. EWING HAS CONTRIBUTED THE FOLLOWING ARTICLE ON THE REHABILITATION OF OREGON IRRIGATION ENTERPRISES:

THE SERIES OF REPORTS DEALING WITH THE AGRICULTURAL AND ECONOMIC SITUATION OF VARIOUS IRRIGATION DISTRICTS IN OREGON, BEGUN TWO YEARS AGO WITH THE SURVEY OF OCHOCO DISTRICT, HAS NOW COVERED SEVEN DISTRICTS, WHILE AN EIGHTH REPORT IS BEING PREPARED. THIS WORK HAS BEEN CARRIED ON UNDER THE DIVISION'S FORMAL COOPERATION WITH THE OREGON AGRICULTURAL EXPERIMENT STATION AND AT THE REQUEST OF THE STATE RECLAMATION COMMISSION, WHICH IS EXPECTED TO ASK FOR A NINTH (AND FINAL) REPORT DURING THE COMING SPRING. MEANWHILE LEGISLATION INITIATED BY THE COMMISSION LARGELY ON THE BASIS OF THE CONDITIONS DISCLOSED IS PENDING IN THE LEGISLATURE. IF ENACTED THIS WILL BRING TO A CLOSE A NOTABLE EXPERIMENT IN STATE-AIDED RECLAMATION WHICH HAS INVOLVED THE ADVANCE BY THE STATE OF INTEREST ON BONDS OF 15 DISTRICTS FOR INITIAL PERIODS --USUALLY FIVE YEARS-- DURING WHICH CONSTRUCTION AND COLONIZATION WERE EXPECTED TO BE COMPLETED. THESE ADVANCES WERE TO BE REPAID BY THE DISTRICTS, WITH INTEREST, AFTER THEIR BONDS HAD BEEN RETIRED; BUT WITH A FEW NOTABLE EXCEPTIONS THE PROJECTS HAVE DEFAULTED ON INTEREST AND BOND MATURITIES AT THE END OF THE STATE'S GUARANTEE PERIOD, COLONIZATION PROGRAMS HAVE FALLEN DOWN, AND THE STATE HAS FAILED TO ACHIEVE ITS PURPOSE OF ESTABLISHING THE DISTRICTS SECURELY ON THEIR OWN FEET. BY THE PROPOSED LEGISLATION THE DISTRICTS WILL BE RELIEVED FROM PAYMENT OF THE AMOUNTS ADVANCED, ALTHOUGH THE STATE'S BONDS COVERING THE ADVANCES ARE STILL OUTSTANDING AND WILL BE PAID, TOGETHER WITH INTEREST AT THE RATE OF 5 PER CENT ANNUALLY.

THE STATE'S BONDS, AS SHOWN BY THE FOLLOWING SUMMARY AMOUNT TO MORE THAN \$2,150,000; BUT ITS ACTUAL OUTLAY HAS INCLUDED ALREADY ANOTHER QUARTER-MILLION DOLLARS (\$263,649.65 ON JUNE 1, 1928) BY REASON OF INTEREST ON BONDS WHICH THE DISTRICTS HAVE FAILED TO COVER. BY THE TIME THE STATE HAS PAID OFF ITS BONDS THE INTEREST PAYMENTS ON THEM, STILL TO BE MADE, WILL PROBABLY HAVE BROUGHT THE COST OF THE EXPERIMENT TO MORE THAN \$5,000,000. THE 15 DISTRICTS INVOLVED INCLUDE A TOTAL NOMINALLY-IRRIGABLE AREA OF 148,000 ACRES, AND AN AREA NOW IRRIGATED OF ABOUT 72,500 ACRES.

S. J. DENNIS IS ENGAGED IN A STUDY OF THE EFFECT OF COOLING PIPE LOCATION, COOLING SURFACE AREA, AND REFRIGERANT TEMPERATURE ON THE TEMPERATURE DISTRIBUTION AND RELATIVE HUMIDITY OF COLD STORAGE ROOMS. THIS WORK IS BEING CONDUCTED AT THE COLD STORAGE LABORATORY OF THE BUREAU OF PLANT INDUSTRY AT ARLINGTON FARM. THE ROOM USED FOR THE INVESTIGATION HAS BEEN EQUIPPED WITH COOLING PIPES INSTALLED IN SUCH A MANNER AS TO PERMIT READY REARRANGEMENT AND GROUPING IN ORDER TO STUDY THE EFFECT OF SUCH CHANGES IN THE TEMPERATURE DISTRIBUTION IN THE ROOM.

THE ROOM HAS BEEN PROVIDED WITH A SPECIAL SYSTEM OF REFRIGERATION CONTROL, COMPRISING AN AUXILIARY BRINE TANK, MOTOR DRIVEN CENTRIFUGAL PUMP AND AUTOMATIC TEMPERATURE CONTROL. PROVISION HAS BEEN MADE FOR METERING THE BRINE FLOW AND FOR MEASURING TEMPERATURES BY MEANS OF THERMOMETERS OR THERMOCOUPLES IN DIRECT CONTACT WITH THE BRINE ITSELF. TEMPERATURE IN THE COLD STORAGE ROOM WILL BE OBSERVED BY MEANS OF THERMOCOUPLES AND A WHITE POTENTIOMETER. A CHAIN OF THERMOCOUPLES HAS BEEN MADE UP AND MOUNTED IN THE COLD STORAGE ROOM IN SUCH A MANNER THAT IT MAY BE MOVED ABOUT THE ROOM. A CABLE WILL CARRY THE CONNECTING WIRES FROM THESE THERMOCOUPLES TO THE POTENTIOMETER IN THE ADJACENT LABORATORY. SPECIAL PRECAUTIONS HAVE BEEN TAKEN IN THE INSULATION AND INSTALLATION OF THIS CABLE, AS THE EFFECT OF EVEN THE SLIGHTEST ELECTRICAL LEAKAGE WOULD BE DISASTROUS TO THE EXPERIMENT.

CORRESPONDENCE RECENTLY CARRIED ON BETWEEN THE BERKELEY OFFICE AND CARL ROHWER SUGGESTS A DESIRABLE COURSE TO BE FOLLOWED BY OTHER MEMBERS OF THE FORCE IN THE PRELIMINARY WORK OF PREPARING FOR PUBLICATION MANUSCRIPTS WHICH CONTAIN EXTENSIVE TABULAR MATERIAL. MR. ROHWER'S REPORT CONTAINS A SERIES OF COMPREHENSIVE TABLES WHICH IT WAS DESIRABLE TO STANDARDIZE IN ACCORDANCE WITH DEPARTMENTAL PRACTICE. SAMPLE HEADING WAS SUBMITTED TO BERKELEY FOR CRITICISM BEFORE THE CONSIDERABLE WORK OF COPYING THE SET IN FINAL FORM WAS UNDERTAKEN. SUGGESTED CHANGES ACCEPTABLE TO MR. ROHWER WERE NUMEROUS ENOUGH TO DEMONSTRATE THAT HIS PRECAUTION WAS WORTH WHILE, ALTHOUGH AS ORIGINALLY SUBMITTED THE HEADINGS WERE UNUSUALLY WELL THOUGHT OUT. AUTHORS HAVING IN HAND TABLES INVOLVING MANY FIGURES AND COMPLICATED HEADINGS ARE INVITED TO FOLLOW MR. ROHWER'S PLAN, AS MUCH COPYING, CORRESPONDENCE, AND GENERAL DELAY IN THE PUBLICATION OF THEIR MANUSCRIPTS WILL BE SAVED THEREBY.

R. G. HEMPHILL RETURNED TO TEXAS EARLY IN THE MONTH AFTER SPENDING SOME TIME IN THE BERKELEY OFFICE IN SOUTHERN CALIFORNIA WHERE HE WENT OVER WORK BEING CARRIED ON THERE BY MR. BLANEY AND ASSOCIATES. MR. HEMPHILL REPORTS THAT THE RECORDS OF TESTS FOR COMPARING THE PERCENTAGE OF SILT BY WEIGHT TO THE PERCENTAGE BY VOLUME AFTER SETTLING 7 DAYS IN GLASS TUBES WERE BROUGHT DOWN TO DATE DURING THE MONTH. A TOTAL OF 1,039 TESTS SHOWED THAT THE PERCENTAGE BY VOLUME AVERAGES 3.289 TIMES THE PERCENTAGE BY WEIGHT.

R. L. PARSHALL REPORTS THAT CONSIDERABLE ATTENTION HAS BEEN GIVEN RECENTLY TO COMPILING AND ANALYZING DATA HAVING TO DO WITH EXPERIMENTAL TESTS MADE LAST FALL ON A NEW MEASURING DEVICE WHICH, FOR THE TIME BEING, HE IS CALLING AN ADJUSTABLE TUBE METER. RESULTS FROM THE STUDY INDICATE CONSIDERABLE PROMISE IN THIS DEVICE IN THAT IT

WILL MEET CONDITIONS OF MEASUREMENT WHERE LITTLE LOSS IN HEAD IS AVAILABLE AND IT WILL BE SELF-CLEANING AND CONSTANT IN ITS OPERATION. FROM THE DATA IT SEEMS TO BE ACCURATE, AND WELL WITHIN PRACTICAL LIMITS. IT IS HIS INTENTION NOW TO BUILD ONE OR TWO OF THESE DEVICES AND TRY THEM OUT UNDER PRACTICAL FIELD CONDITIONS IN THE ARKANSAS VALLEY DURING THE COMING SEASON. IT IS BELIEVED THAT IF THIS METER WILL OPERATE SATISFACTORILY UNDER CONDITIONS AS THEY EXIST IN THAT VALLEY, IT WILL BE HIGHLY SUCCESSFUL IN OTHER DISTRICTS WHERE THE PROBLEM OF SAND AND SILT IS PARAMOUNT.

CARL ROHWER REPORTS PROGRESS ON HIS "LOSS OF WATER BY EVAPORATION" PROJECT AS FOLLOWS:

THE RESULTS OF THE ANEMOMETER COMPARISON TO DETERMINE THE RELATION BETWEEN THE INDICATED WIND AND THE WIND AT THE GROUND SURFACE SHOW THAT VERY LITTLE CHANGE OCCURRED IN THE ANEMOMETERS DURING 1928. THE 1928 EVAPORATION DATA WERE, HOWEVER, COMPUTED ON THE BASIS OF THE REVISED COMPARISON DIAGRAMS. IN CARRYING ON THE OBSERVATIONS ON THE EVAPORATION FROM ICE WITHOUT WIND, IT WAS FOUND THAT MORE CONSISTENT RESULTS WERE OBTAINED WHEN THE AIR ABOVE THE ICE SURFACE WAS FANNED SLIGHTLY SO AS TO SIMULATE CONDITIONS OUTSIDE WHERE THE ANEMOMETER WOULD INDICATE NO WIND, EVEN THOUGH THERE WAS A SLIGHT MOVEMENT PERCEPTIBLE. OBSERVATIONS ON THE EVAPORATION FROM ICE WITH CONTROLLED WIND WERE STARTED RECENTLY, BUT IT IS FEARED THAT THE PRESENT WARM WEATHER WILL NECESSITATE DISCONTINUING THE OBSERVATIONS BEFORE SUFFICIENT DATA HAVE BEEN OBTAINED TO DETERMINE THE EFFECT OF THE WIND.

L. A. JONES ATTENDED THE ANNUAL MEETING OF THE NATIONAL DRAINAGE CONGRESS AT MEMPHIS, TENN., FEBRUARY 19 AND 20, WHERE HE READ A PAPER DEALING WITH DRAINAGE DITCH MAINTENANCE.

NICHOLAS A. KESSLER, FORMERLY AGRICULTURAL ENGINEERING SPECIALIST WITH THE MICHIGAN AGRICULTURAL COLLEGE WAS APPOINTED, EFFECTIVE FEBRUARY 4, TO THE POSITION OF ASSOCIATE LAND CLEARING SPECIALIST. MR. KESSLER REPORTED AT ST. PAUL, MINN. TO TAKE UP HIS FIRST ASSIGNMENT, WHICH IS IN CONNECTION WITH THE COOPERATIVE PROJECT WITH THE UNIVERSITY OF MINNESOTA HAVING FOR ITS OBJECT THE DETERMINATION OF THE COMPARATIVE COSTS OF DIFFERENT METHODS OF LAND CLEARING IN MINNESOTA. GEORGE R. BOYD IS IN CHARGE OF THIS PROJECT.

P. C. MCGREW, WHO FOR SEVERAL YEARS HAS BEEN ASSISTING D. G. MILLER AT ST. PAUL, MINN., ON THE CONCRETE-ALKALI PROJECT, REPORTED ON FEBRUARY 6 AT GUTHRIE, OKLAHOMA, TO ASSIST C. E. RAMSER ON THE SOIL EROSION PROJECT.

D. L. YARNELL, ON FEBRUARY 22, WILL ADDRESS THE FEDERATED ENGINEERING SOCIETIES OF MINNESOTA AT THEIR ANNUAL MEETING AT ST. PAUL. THE TITLE OF HIS PAPER IS "SOME ASPECTS OF FLOW AROUND BENDS AND BRIDGE PIERS." D. G. MILLER WILL ADDRESS THE SAME MEETING. HE WILL PRESENT A SUMMARY OF THE RESULTS OF RECENT COOPERATIVE STUDIES IN NORTHERN MINNESOTA, DEALING WITH THE EFFECT OF DRAINAGE ON SWAMP FOREST GROWTH.

THE
OFFICE OF THE
SECRETARY OF THE
NAVY
WASHINGTON, D. C.
JANUARY 10, 1900

TO THE
HONORABLE
MEMBERS OF THE
NAVY
DEPARTMENT
WASHINGTON, D. C.

RECEIVED
JANUARY 10, 1900

THE
OFFICE OF THE
SECRETARY OF THE
NAVY
WASHINGTON, D. C.

TO THE
HONORABLE
MEMBERS OF THE
NAVY
DEPARTMENT
WASHINGTON, D. C.

RECEIVED
JANUARY 10, 1900